

Community Support Forestry™ Firewood Program: Gauging Local Interest for a Healthier Tomorrow



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The Wood-Pile

Robert Frost

Out walking in the frozen swamp one gray day
I paused and said, 'I will turn back from here.
 No, I will go on farther- and we shall see'.
The hard snow held me, save where now and then
One foot went through. The view was all in lines
 Straight up and down of tall slim trees
 Too much alike to mark or name a place by
 So as to say for certain I was here
 Or somewhere else: I was just far from home.
 A small bird flew before me. He was careful
 To put a tree between us when he lighted,
 And say no word to tell me who he was
Who was so foolish as to think what he thought.
 He thought that I was after him for a feather-
 The white one in his tail; like one who takes
 Everything said as personal to himself.
One flight out sideways would have undeceived him.
 And then there was a pile of wood for which
 I forgot him and let his little fear
 Carry him off the way I might have gone,
 Without so much as wishing him good-night.
 He went behind it to make his last stand.
 It was a cord of maple, cut and split
 And piled- and measured, four by four by eight.
 And not another like it could I see.
No runner tracks in this year's snow looped near it.
 And it was older sure than this year's cutting,
 Or even last year's or the year's before.
 The wood was gray and the bark warping off it
 And the pile somewhat sunken. Clematis
Had wound strings round and round it like a bundle.
 What held it though on one side was a tree
 Still growing, and on one a stake and prop,
 These latter about to fall. I thought that only
 Someone who lived in turning to fresh tasks
 Could so forget his handiwork on which
 He spent himself the labour of his axe,
 And leave it there far from a useful fireplace
 To warm the frozen swamp as best it could
 With the slow smokeless burning of decay.

I. Introduction

The Vermont forest has been, and continues to be, an integral and defining portion of our human connection to the land. We have looked to the forest for spiritual grounding, recreation, hunting and gathering, fuel, and timber for basic needs such as shelter and furniture (Berger 1998, Irland 1982). Beyond their intrinsic value, forests have recently been identified for important ecosystem functions, such as protecting soil and water quality, providing habitat for wildlife, stabilizing climatic conditions, and ensuring biodiversity (Berger 1998). Since colonial times, the Vermont forests have experienced an ebb and flow of demands on their resources. Today, these demands continue to increase as population growth consumes not only more land, but more resources.

Our modern landscape is now a result of the relationship between man and nature, created by their cooperation and opposition to one and other (Browne and Reed 1985). Laws governing the Vermont forests have been in existence since 1639. These first laws dealt with management practices in a forest which was cleared for farmland, lumber, fuel, and potash. These fundamental laws served to balance the desire for clearing and taming the landscape to achieve a pastoral existence with the maintenance of an adequate supply of forest products. Management decisions were rarely challenged as forestland, at the time, appeared to be in far greater abundance than the demand for its resources. As a consequence, colonial times were characterized by an unsustainable and insatiable conquering of the forest resources (Klyza and Trombulak 1999).

Throughout this time period, the supply of firewood dictated the desirability of a certain tract of land for settling, as it was an essential commodity of Vermont life (Irland

1982). Consequently, the 95% forest-covered land that greeted Europeans quickly became victim to the axe. Forest coverage fell to 82% by 1790 and continued to fall until forest cover bottomed out at 35% in 1880 (Klyza and Trombulak 1999). The decline in firewood demand around this time corresponded with the return and reclamation of land by forest habitats.

Today, Vermont has experienced a rebound in the health of its forests, with approximately 75% coverage. While the woodpile's importance is still evident as decaying remnants can be found next to abandoned farmhouses across the state (Irland 1982), the widespread use of firewood as a primary heating source has diminished, allowing the forestland to increase across the state. The rebound of the forest was the result of a switch in energy away from biomass to hydroelectricity, oil, gas, and nuclear. These new conversions initiated a pastoral way of life in Vermont, and the transition to new forms of fuel allowed for the succession of forestland, bringing with it a stabilization of growth, controlled harvests of wood, and a restoration of the delicate balance of Vermont forests (Irland 1982).

The use of firewood has not disappeared. Biomass fuel use fell until the 1970s, when the energy crisis regenerated interest in firewood as an alternative fuel source during the 1980s. The revival of this energy source was paralleled by the introduction of sustainable forestry, emphasizing the implementation of specific practices to protect a forest's ability to conduct natural processes and functions, while also providing for human needs. Sustainable forestry aims to follow nature's blueprint for maintaining the self-repairing and viable characteristics of a forest (Berger 1998). Sustainable management of forests is based on a multi-use vision of the landscape that preserves

healthy and sustainable ecosystems, prosperous forest products, ample recreational opportunities, and supports ownership patterns that promote a working forest while protecting unbroken forest tracts (The Vermont Forest Resources Plan 1999).

This vision of sustainable forestry is once again under pressure due to recent increases in demand for biomass as a major local source of fuel energy. The increased cost of oil, uncertainties about foreign oil sources, and increasing concerns about climate change due to carbon dioxide emissions from fossil fuel combustion have prompted renewed interest in firewood as a source of fuel. Wood represents a renewable and locally accessible energy source that may prove to be an important alternative to oil.

It is important to acknowledge that firewood is not an unlimited or perfect source of energy. In some areas of the country, particularly the Pacific Northwest, wood burning has been regulated extensively to reduce the impact on public health since burning emits carbon dioxide and releases hazardous air pollutants. In addition to the obvious dangers to human health, any increase in the demand for wood from both individuals and institutions will also put significant stress on Vermont forests. As a result of these anticipated hazards, it is important to consider how the harvesting of firewood can be managed. A process must therefore be implemented that would ensure that local extraction of firewood from Vermont Forests does not occur at an unsustainable rate and that post harvesting efficiency is maximized so as to minimize emissions and increase BTU capacity through proper burning techniques.

Vermont Family Forests, our community partner, is dedicated to maintaining this fine balance. Vermont Family Farmers (VFF) is a non-profit organization that focuses on bringing together the three key constituent groups involved in firewood production and

use—non-institutional private forest landowners, harvesters, and firewood customers. In addition to fostering relationships between the three constituent groups, VFF works to ensure forests are managed to provide for human needs while balancing the preservation of natural, productive, and self-maintaining forest ecosystems. VFF is responsible for a certification process that ensures the maintenance of sustainable forests, the marketing of high quality wood products, and the promotion of educational and outreach programs. Since its founding in 1995, VFF has focused its energy on forest stewardship and the use of local wood in building construction and furniture making. However, given the increasing use of Vermont's forest resources for biomass, VFF hopes to expand into a new niche involving the promotion of sustainably produced and efficiently utilized Vermont firewood in local communities.

Aldo Leopold said the land is a community to which we all belong (Berger 1998). This is especially true in Vermont, where we continue to have a close relationship with the landscape. The development of healthy local communities in Vermont not only relies on creating deeper interpersonal relationships among community members, but also integrating connections with our natural surroundings. As members of an active and fruitful landscape, the fate of our communities may rest in our ability to maintain the health of our surrounding environment (Diamond 2005). We must use our past relationship with the Vermont forest as a lesson for managing future increases in demand of its resources. This preemptive awareness of future pressure may protect the Vermont landscape and our communities from future failures (Diamond 2005).

Vermont Family Forests has developed a new firewood program called the Community Supported ForestryTM (CSF) Firewood Program. It is modeled after the

Community Supported Agriculture (CSA) program that is successfully implemented throughout the world. In CSA programs, interested customers invest in local farms at the beginning of a growing season and receive a weekly or biweekly portion of a farm's crops. These items can include not only produce, but dairy, meats, eggs, and cut flowers. Such systems ensure reliable markets for farms and create a customer base aware of the natural constraints of the environment. They increase community ties and can bring prices down for fresh local food. The CSF Firewood Program is applying this model to firewood customers, harvesters, and forest landowners. By directly linking these three parties, the sustainable harvesting of wood can be ensured, while protecting local resources and building and deepening community relationships.

The Community Support Forestry™ Firewood Program will rely upon the integration of social connections, the local economy, and environmental sustainability. The intrinsic value of these community connections is becoming increasingly strong as awareness of the impact of using local fuel sources is felt directly by both harvesters and customers due to their increased local knowledge and connection to the land (Berry 1987). In promoting the use of local wood, the CSF model would infuse the local economy to strengthen community ties and vice versa. The services that are integral to the CSF Program will result in intangible economic assets to local communities such as local-cultural born knowledge, changes in attitudes about the treatment of surrounding land, community members who have increased land management skills, and community convergence surrounding the protection of a waning way of life (Berry 1987).

The development of a CSF program aims to connect the hearts of Vermonters to reverse the trend of disappearing family tradition. Further, this program intends to reach

inward to ensure the continued involvement of community members throughout their lives in the cultural and natural traditions of an area. The maintenance of the historic culture and the sense and knowledge of place results in a strong collective memory for the entire community which cradles and nurtures the spiritual, emotional, and physical needs of each member. (Berry 1988, McKnight 1997).

The CSF Program strives to modify the current economic system by promoting community as the base of the economy, with less emphasis on the individual. The integration of individual needs into a community model is an essential paradigm shift of a local economy; it not only ensures that the needs of the individual are met through providing sufficient fuelwood and a strong business base for providers, but it also provides a healthy landscape for the collective group (Daly 1994). The increased productivity in this model is based on communities versus corporations dictating a future, since corporations are separated from the needs and values of a specific place (Daly 1994). The movement towards an increasingly local economy results in enhancing the quality of life because business choices are based on the needs of the community. The investment in community-derived business also expands jobs, increases the tax base, and in turn strengthens the local economy; it is a positive feedback loop (Shuman 1998). The cyclical power of a locally based economy aids in controlling the rate at which material flows through a society through efficiency maximization. For instance, the educational components of the CSF program that focus on efficient firewood storage and burning lead to a reduction in overall demand for firewood (Meadows 2002).

This microeconomic model for healthy local communities puts local members in control of their futures. Such a model allows the community to develop deep ties through

knowing and caring for the needs of each community member and through their collective care for the land on which their economy is based. This in turn provides the building blocks for other community activities and deepens the social and spiritual connection of local members. The bonds are made through the integration of local skills and knowledge, and their protection through the succeeding generations (Shuman 1998).

The resulting sentiment surrounding the protection of a timeless and intimate balance between humans and the natural world is the final and essential link (McKnight 1997). Through developing local economies and community ties, the CSF Program keeps our dollars in the community. The preservation of local character is then tied directly to sustaining the natural world as it exists today (Shuman 1998). Through the use of local wood, we not only increase the efficiency of our communities through decreasing demands on the rising cost of energy transport, but we are protecting ourselves from future environmental costs (Shuman 1998). The development of a sustainable local energy source results in an unprecedented need to protect our local land because of the integral nature of a local economy. A local energy source is based around our local character, economy, and the health of the natural world.

Our role in this project has been to help VFF gauge local reaction to the CSF program idea, identify the various advantages and challenges surrounding implementation, and begin to tap the local/historical knowledge needed to further develop the model. To do this, three constituent groups associated with firewood use were targeted: forest landowners, firewood harvesters, and firewood customers. The goal was to provide a measure of community commitment towards this program concept and to provide recommendations for future action by VFF.

II. Information Gathering

We used several methods of surveying to introduce and gauge local community interest in the CSF program. The target audience for an online survey was the current Vermont Family Forest email list (~900 members). This choice was made because these individuals represent an ideal target population for a CSF Firewood Pilot Program. Also it was decided that directly accessing this group using the VFF email list-serve would result in a higher response rate than from the public at large. We further divided this group into the three key constituent groups already identified by VFF: forest landowners, firewood harvesters, and firewood customers. While in reality a person may fall into multiple groups, we chose to analyze these as separate entities. All three groups were asked to complete a relatively short survey—approximately 15-30 questions (10-20 minutes) (Appendix A). The survey was posted online at www.surveymonkey.com November 6, 2006, and was closed November 28, 2006. An online survey was chosen over a direct mailing or phone survey to increase the response rate, reduce costs, and quicken the response time. A link to the survey was sent out to the VFF e-mail list and also posted on the VFF web page. A total of 216 electronic surveys were completed, of which 168 respondents identified themselves as firewood customers, 144 as landowners, and 11 as firewood harvesters.

To supplement the data collected by the online surveys, a more condensed customer survey was created and used as an “intercept” survey that was conducted at the local Middlebury Natural Foods Co-op on November 10, 2006 (Appendix B). These surveys were administered to Co-op customers who approached the table and who then

responded positively as to whether or not they burned firewood. A total of 22 surveys were completed, and the results were used to supplement the online data.

Finally, to gain a more in-depth understanding of the firewood harvesters' perspective, we arranged a personal interview at the VFF office in Bristol on November 16, 2006 with Bill Torrey, a local harvester from Addison County. Susannah McCandless and Sandra Murphy from VFF joined us for the interview and provided VFF's perspective. As a producer who practices sustainable logging techniques, and who has been involved in prior VFF projects, Torrey was an ideal candidate who might potentially be involved in the implementation of the CSF model. We conducted the interview in an informal manner and based our questions on the harvesters section of our online survey, which Torrey had already completed. We discussed the logistics of collecting firewood in a sustainable manner and what the limitations of the program could be from a logger's perspective. Careful notes were taken on Torrey's responses and compiled following the interview.

III. Findings and Results

A. Demand for Firewood and Viability of the Model

The overall demand for firewood has been increasing over the last decade. Thus, the timing is ideal to ensure that the increased demand is met using healthy and sustainable forestry practices. A primary goal of our research was to assess the viability of the proposed CSF program model. In conducting the survey, we identified several factors that would affect the feasibility of the project. Respondents were asked to assess their willingness to participate and rate potential advantages for themselves in the CSF model (Appendix A). The majority of respondents were supportive of the program citing a variety of improvements over the current system.

1. Viability for Customers

Of fundamental importance to the analysis of viability for the CSF Program was the finding from online and paper surveys that there is a clear and rising demand for firewood in this area. Collectively, online survey respondents use a total of 507 cords of wood per year, with an average of 3.36 cords per respondent. As seen in Figure 1, more than half of firewood customers use wood as the primary source for heating. Why the increasing demand for firewood? 76.5% of customers claim to prefer firewood to alternative heating sources largely because it is a local source of energy. However, respondents are also choosing firewood for a variety of reasons shown in Figure 2, or as one survey respondent described, “old habits die hard.”

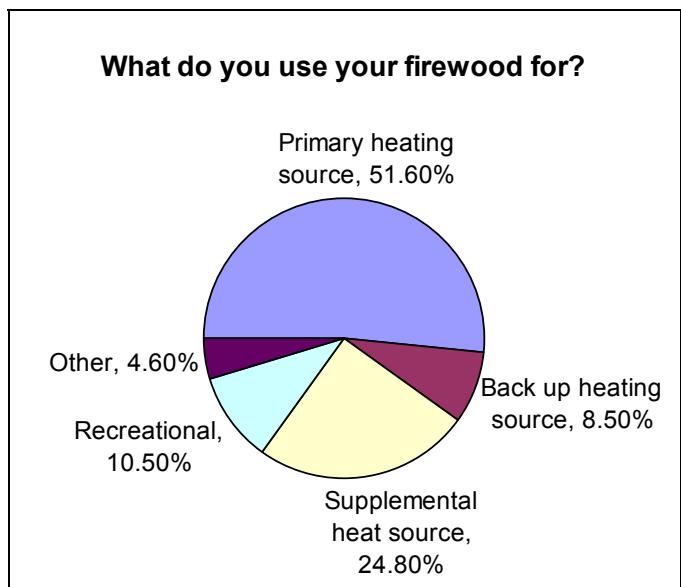


Figure 1: Customer uses of firewood (n=153).

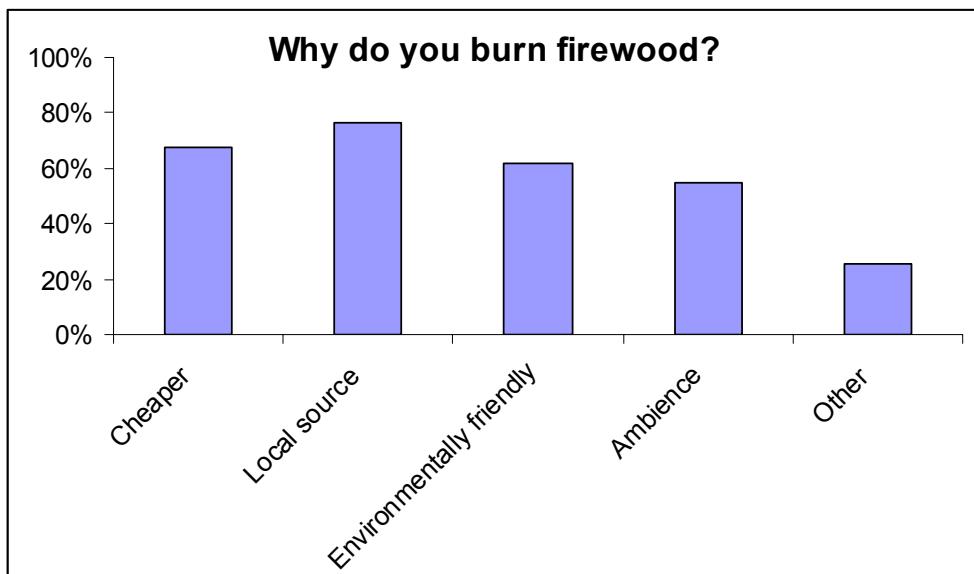


Figure 2: Customer reasons for burning firewood (n=153).

Not only is demand for firewood evident, there is also clear interest by customers in the preservation of healthy forests and sustainable yield of firewood, indicating the necessary role to be played by the CSF model. Customer respondents to the survey show a particularly strong interest in the values promoted by the CSF model—91% of customers would like to know where their firewood is harvested and 95% are interested in purchasing wood from “carefully tended local sources.”

Another important indicator of the feasibility of the CSF plan was the customer's familiarity with the Community Supported Agriculture model. With nearly 69% of the firewood customer respondents aware of the CSA model, VFF will be able to build from that existing knowledge base as they promote the CSF model. In addition, 91% of survey respondents were willing to pay in advance for firewood from healthy local forests, suggesting that paying in advance may not be a major obstacle to the CSF model. This will provide extra security and flexibility to the firewood harvester.

2. Viability for Landowners

Landowner respondents were supportive of the CSF model for the benefits of preserving healthy local forests and providing a sustainable yield of firewood. While the VFF landowners surveyed had many differing viewpoints on the level of management they want in their forests, nearly 70% (87 of 124 respondents) stated they were willing to support the CSF model to harvest firewood. With the average landowner in possession of 118 acres of land, this equates to roughly 10,000 acres of forested land. These landowners also expressed significant interest in sustainable land management practices for their land. With such widespread support, finding VFF certified land to provide firewood should not be a major obstacle in implementing the CSF model.

3. Viability for Harvesters

Of the firewood harvester respondents, 6 out of 11 indicated that the demand for firewood is growing. Firewood harvesters also responded positively to the CSF model, indicating that the program would help provide them with a more stable source of income, as well as provide their customers with a reliable source of sustainably harvested wood. When asked whether they would be interested in participating in the program, 10 of the

11 respondents wrote that they would either like to participate, or that they might be interested once given more information.

B. Challenges of the Model

The conversion of the existing firewood forestry model to a CSF model presents several obstacles that need to be addressed from the beginning. Each group: landowners, harvesters, and customers, have their own needs and desires that must be balanced while creating this novel program. Creating the necessary trust network between the three groups is the largest and most important barrier. Through the surveys, each group identified several of their initial hesitations. Many of these can be managed by VFF through information and knowledge sharing. However, building trust takes time and patience from each of the groups. VFF needs to play an active role in facilitating this progress.

1. Challenges to Customers

The customer population probably has the fewest challenges. As noted above, the interest already exists for CSF. Through the surveys, customers agreed to pay in advance and assume some of the risk associated with logging. However, three major concerns were shared amongst most of the respondents. First, 72% of firewood customers feared a variable supply in firewood. With the CSA model, customers can afford to have a varied selection from week to week. However, for customers relying on firewood as the primary source of heat, they need to be assured that they will receive enough firewood to last throughout the winter. Second, 66% of customers were afraid that the CSF program would lead to an increased cost of firewood. Finally, 47% of firewood customers worried

that the CSF model would involve too much hassle, especially trying to plan a full year in advance.

2. Challenges to Landowners

Landowners were generally willing to explore the possibility of a CSF program, but had several common concerns. Currently, 77% of landowners are unable to manage their land according to their goals because of time as shown in Figure 3. If implementing CSF requires too much of a time commitment, landowners will be unwilling to participate. Many of the landowners who were interested in the program cautioned that their own land is too small for this model. They currently harvest the wood for their own personal use, and would therefore be unable to provide for the larger public. Figure 4 shows that enjoying nature's beauty and the scenery was the most popular reason for owning forestland. Many of these landowners are hesitant to cut any of their trees. Cutting trees conflicts with their vision of a healthy forest. However, several respondents identified a lack of knowledge regarding sustainable forestry as the cause of their hesitations. These respondents feel they would "benefit from knowing more about sustainable forest management as it applies to small land-owners." Finally, 61% of landowner respondents are worried that a CSF program would present higher production costs than returns. These landowner concerns must be addressed during the initial implementation phase of the CSF program.

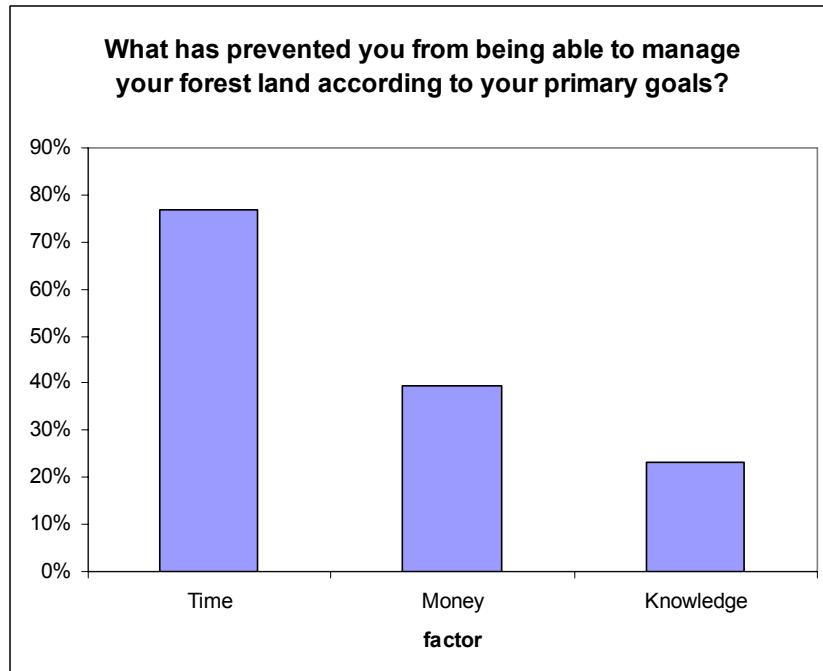


Figure 3: Constraints on landowners from managing private forest (n=124)

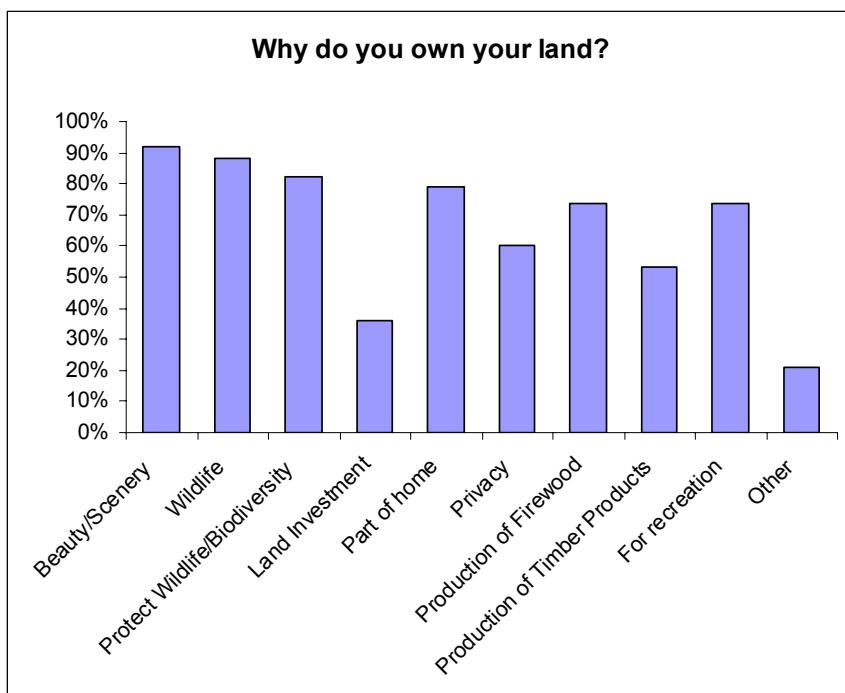


Figure 4: Landowner reasons for owning land (n=128).

3. Challenges to Firewood Harvesters

The firewood harvester population identified some of the most difficult logistical challenges that the CSF model needs to tackle. Like the customers, current harvesters identified production costs (70%) and hassle (50%) as two of the most immediate constraints to the CSF model. However, our interview with Bill Torrey further explored these logistical barriers. According to Torrey, one of the most difficult problems will be monitoring the harvesters. Since VFF can not police every single tree that is cut, there is an incentive for harvesters to cheat and cut more wood than is sustainable. Keeping the proper chain of custody with a clear paper trail will aid VFF in providing some monitoring. Since the whole system is built on trust, cheating by any of the groups could hurt the entire system. According to Torrey, attracting harvesters for the CSF model will be difficult because of the high initial costs associated with logging. No one can legitimately harvest firewood without a \$12,000 to \$60,000 processor because the “manual labor kills you.” As noted by the landowners, many Vermonters currently cut their own firewood. However, in order to provide wood for the general public under the CSF model, harvesters will need to use current technology such as a wood processor. Finally, Torrey discussed the logistical challenge of delivery. Since the average firewood customer purchases only 3.36 cords of wood and many only purchase one or two cords, harvesters must be prepared to make small deliveries. However, since the customer base will be known before the season, harvesters will be able to plan and possibly deliver firewood to a neighborhood together. Collectively, the challenges and concerns identified by the customers, landowners, and harvesters must all be addressed before CSF can truly expand beyond the pilot program to the greater public.

C. Summary of Findings

The Community Supported Forestry™ Firewood Program developed by Vermont Family Forests has definite potential in drawing together many different members in communities across the state. Analysis of the survey data shows that there is in fact interest among all three groups, suggesting the CSF program model is a viable plan. Our survey indicates firewood demand and use is on the rise, therefore it is imperative the implementation stages of this program occur as soon as possible to develop a dialogue between non-institutional forest landowners, firewood harvesters, and customers to ensure a dynamic and sustainable landscape. Vermont Family Forests can provide the platform for this dialogue to occur, thereby fostering a system of trust between these different constituent groups and developing a keen sense of place for all community members. Vermont Family Forests is at the center of this circle of trust and must take an active role in the infancy of the CSF Firewood Program in order to ensure that trust develops between producers and customers. The foundation of this trust lies in not only developing an awareness of how each group would benefit from this program, but also caring for each groups needs.

IV. Recommendations

The most critical recommendation for Vermont Family Forests as they proceed with the development of the CSF Program is to focus their efforts on harvesters and landowners. As there is obvious interest expressed by the customer, the initial efforts of VFF do not need to emphasize gaining customer support. Instead, they should direct attention and research towards determining the mechanics of a reliable supply of firewood. Efforts should target the precise logistics of harvesting techniques, distribution networks, capital requirements, and costs to ensure the sustainable supply of firewood. The complexities of the CSF model for harvesters and landowners must be worked out as soon as possible in order for the launch of the program to be smooth and successful. Even minor kinks in the supply system could create doubt among customers and lead to an unraveling of support. If the mechanics of the supply of firewood are not completely researched and outlined in order to successfully provide for the demands of customers, the entire program could fail. Ideally, VFF should first bring landowners and harvesters together to work out the mechanics of harvesting wood from local forests and then, turn attention to the customer.

1. Recommendations for Educational Workshops

The results from our survey indicate that Vermont Family Forests must take an active role in developing workshops and educational programs to raise awareness of the positive benefits of the Community Supported Forestry™ Firewood Program. By addressing each constituent group's needs and concerns, as well as the ambiguities of the program, these workshops can help clarify any confusion during the initial stages of implementation. Additionally, they can also be used as a means of promoting the

personal relationships amongst the members of these three groups. These workshops should focus on four main themes: benefits of the CSF program, establishing and teaching harvesting techniques to firewood harvesters, creating ties between customers and producers, and educating individuals harvesting firewood from their own land.

First, survey respondents indicated that there is some confusion about the benefits of the CSF Firewood Program that could be clarified through a workshop series highlighting/demonstrating the success of CSA programs across the state. The workshop should be designed mainly for firewood harvesters, as their responses indicated the greatest concern for the program. In this workshop, VFF should aim to dispel concerns by addressing the desire to maintain a current way of life for these harvesters, while filling the needs of the program: specifically, sustainable harvest and delivery to customers. This workshop series could begin with connecting farmers who participate in CSA programs with firewood harvesters to discuss the parallel benefits that they have experienced. Although the end product of each program is quite different, these two groups will benefit in many similar ways. Both farmers and harvesters greatly benefit by receiving a disposable income early in the season, thereby financially aiding some of the initial costs. This income is based on the trust that customers develop as they are provided with a reliable product throughout the season. In the case of the CSF Firewood Program, trust is based on the delivery of wood from local, carefully tended, and sustainably harvested forests. The important lessons learned from CSA farmers, combined with the knowledge of sustainable forestry of VFF, should be used to develop criteria for best practices in the CSF program.

A second workshop covering harvesting techniques would describe what it means to be sustainable and how to achieve the goals of a CSF program. VFF could provide on-site analysis of current methods, and provide harvesters with the most economically viable means of changing any current practices to more sustainable measures. Secondly, VFF can help provide a means of connecting producers with potential state grants to aid in a viable switch to more sustainable methods. These grants can be obtained through the Vermont Division of Forestry, the Vermont Council on Rural Development, and other non-profit institutions. Developing harvesters' knowledge of sustainable harvests will aid in garnering their enthusiasm for the CSF Firewood Program, and is one step toward developing a relationship with firewood customers.

A third workshop should focus on bringing together local customers and harvesters. This workshop should be decentralized in order to produce a model that closely parallels the structure of the CSF Firewood Program. Since promoting the use of local wood, these workshops should take place in several locations to connect firewood harvesters and customers from the same geographical location. This workshop should focus on developing a dialogue between harvesters and customers, and allowing for each to express their desires for joining this program. Such dialogues could include customers discussing their desires to acquire sustainably harvested firewood, and harvesters describing the most efficient means of delivering firewood, such as time of year. This workshop is necessary in that it increases the knowledge of the way of life for each constituent group, and highlights some of the constraints of the respective parties. These workshops should connect locals, so they not only begin to develop a level of trust which will make the CSF Firewood Program run successfully, but should also connect different

socio-economic groups which share more than a geographical location. These groups share a desire to foster a healthy, local, natural landscape and a general commitment to the social connections necessary to promote a sense of community and place.

Finally, the fourth workshop should address the high number of individuals who harvest wood from their own forestlands. Because this workshop does not directly hinder the implementation of the CSF program, it could wait until the new model is running smoothly. The workshop should focus on educating forest landowners on the best sustainable harvesting methods for a small forest in order to ensure that natural processes and forests services still occur at their highest levels. These workshops could promote the integration of individuals into the CSF program by providing information about the program. Landowners can be excellent resources as well as sources of firewood.

The execution of workshops will not be an easy task because of the need to reach not only a high number of people representing different constituent groups, but also because of the large amount of educational information that needs to be covered at each session. However, if these workshops are carried out with a focus on dispelling concerns and highlighting benefits that are inherent in the CSF Firewood Program, it will be a worthwhile investment not only for the future of the program, but also for the health of the local economy, culture, and natural landscape.

2. Recommendations for the Structure of the CSF Program

The establishment of a program will be successful if Vermont Family Forests promotes and fosters high levels of communication between the different constituent groups, especially between firewood harvesters and customers. In promoting this dialogue, VFF must continue to take an active role after the workshops are over and

connections have been made between harvesters and customers for the coming winter season. This could include the promotion of VFF in providing harvesters with permits or certificates for their sustainable harvesting practices, which could be used to establish trust between customers and their local harvesters. The dialogue should also promote each group expressing when in the season the payment should be made, and when customers would most prefer their wood to be delivered. The establishment of this dialogue regarding the wants and needs of each group will allow for the reduction of confusion between each group, thereby decreasing the likelihood of dissatisfaction within each group. Also, having a central group establish this communication allows a certain degree of fairness and consistency within the system and permits harvesters and customers to immediately interact in a deeper and more meaningful way. This interaction goes beyond the business transaction of firewood into caring for each other as members of a unique community. The dialogue could further be promoted by VFF through gathering the different members of the CSF Firewood Program together throughout the course of the year to establish closer relationships. This could be done at a variety of venues through the year. For example, harvesters could host a gathering near their forestland so customers could see where their wood is harvested and become more aware of the natural cycles of forest ecosystems. Customers in turn, could host a gathering during the winter months to involve producers in their lifestyle where the burning of wood has become an integral aspect of homelife.

V. Conclusion

Healthy local communities rely on the maintenance of not only deep ties between human members, but also between humans and an environmentally sustained natural world. The implementation of a novel Community Supported Forestry™ Firewood Program by Vermont Family Forests is an important factor in both developing and sustaining these relationships into the future. By connecting members of the community from a variety of backgrounds, interests, and socio-economic groups with the collective knowledge of their shared natural surroundings, this program will successfully develop the meaning of community in a deeper sense. The development of a sense of place is integral to connecting our hearts and minds with our intrinsic love for the landscape. By connecting harvesters, landowners, and customers through a mutual need for the others' services, a CSF program creates a circle of trust which is self-promoting and self-supporting. Healthy local communities are a distinct possibility in Vermont. The CSF Firewood Program aims to further diversify our community through increasing the use of local knowledge, land, fuel, and the dollar in order to strengthen these ties into Vermont's future.

Our work with Vermont Family Forests throughout the Fall 2006 semester has allowed us to provide a base of information for VFF regarding local interest in a Community Supported Forestry™ Firewood Program by surveying and talking with forest landowners, firewood harvesters, and customers. Early on we decided to use the VFF email list in order to develop an accurate and in-depth analysis of the expectations and perceived challenges of individuals most likely to participate in the CSF model. The online survey went through many drafts in order to achieve both brevity and breadth, and

was eventually divided into three separate surveys for each of the constituent groups.

After a month online we had received 216 responses to our survey—a testament both to the level community interest and the efficiency of internet based surveys. We realized, though, that we needed to connect with people in the community beyond an electronic survey. Consequently we also distributed surveys and talked with people at the Middlebury Natural Foods Co-op and also interviewed a local harvester, Bill Torrey.

The results of our survey and these personal discussions provided us with valuable information on the viability of the CSF program in Addison County. The overwhelming feedback was of general interest and excitement for a CSF in Addison County. Of the three targeted groups, the strongest and most positive response came from the customers. It is clear from the data collected that there is both a demand for firewood as a primary heating source, as well as a strong desire of customers to learn the origin of their firewood. While local wood appears to be a priority on the customer side, knowing that this wood is harvested in a sustainable manner is also important.

The survey also suggests that the bulk of the logistical problems will be from the production side. While there were many landowner respondents who expressed interest in becoming involved in the CSF program, many landowners only produce firewood from their land for personal use, and thus, did not find the CSF model helpful. Further, our interview with Bill Torrey revealed possible limitations with the plan, especially in regards to obtaining resources needed to process firewood, as well as finding enough local loggers who have the knowledge base to harvest wood in a sustainable manner.

In spite of perceived limitations, there is also a great deal of optimism on the side of the landowners and harvesters, suggesting that these logistical problems may be

overcome. Informational workshops will help on many levels. By educating potential harvesters and landowners on sustainable forestry, VFF should be able to create a strong network of landowners and loggers as part of the CSF program. Educational workshops for firewood consumers will also be beneficial, as they will promote the cause and will reinforce and attract new customers to the existing strong base. The fact that there is already a strong interest from the customers is very promising for the implementation of the CSF model. VFF must now focus on the logistics of the program, primarily with loggers and landowners, to construct a plan that works for them as well as the customers.

Both the online survey and paper questionnaires that were developed for this project are valuable future resources for VFF. These surveys could be used as templates for other communities within Vermont and beyond that might be interested in introducing the CSF model. As with the CSA model, the development of the CSF program will take time and will require coordination of efforts and tools across communities. The surveys created for this project have been extremely useful for gaining insight into the viability and interest in the CSF program, as well as for identifying what the challenges of launching the model might be and where pre-program launching efforts should be focused. This survey could be used by VFF to further gauge the level of support and barriers to the program in the greater Addison County area. Finally, VFF might also further develop various sections of the survey and run them individually to prepare themselves for the development of the various workshops that they plan to launch. For instance, a more detailed survey specific to the concerns of wood harvesters could be used to identify important elements that VFF should include in a future workshop.

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Appendix A: Online Survey

Here at Vermont Family Forests, we're developing what we think is an exciting and innovative firewood program, but we need your input. Below you'll find a survey we'd like you to complete. And because we know how busy you are, we've added a little incentive to get you to spend the few minutes it will take to complete the survey. The first 10 respondents will receive a beautiful Vermont Family Forests ceramic mug. Also, all survey respondents will be entered into a drawing, the winner of which will receive a two-hour forest consultation with David Brynn, forester and founder of Vermont Family Forests.

Winter's on its way, and with oil and propane costs soaring; Vermonters are looking for alternative ways to heat their homes. Heating with wood is a natural choice. At Vermont Family Forests, we want to help ensure that, as more and more homes and businesses rely on our forests for heat, we maintain forest health, maximize efficiency in utilizing firewood, and provide socially responsible access to firewood.

At Vermont Family Forests, we are developing a firewood program that we hope will address all three of these important issues. The Community-Supported Forestry™ Firewood Program is still in the planning stages. Our firewood program parallels the Community-Supported Agriculture (CSA) model that has been used very successfully by farmers across the country.

In our Community-Supported Forestry™ Firewood Program, customers will pre-buy firewood from healthy, local forests. As we envision it, this program will provide a direct connection between landowners who practice ecologically sustainable forestry and customers who care that their wood comes from healthy forests.

We're very excited about the opportunities this program may hold for our community and our forests. We have a general framework for what the program might look like, but we need your input to help us identify opportunities and constraints for firewood users, landowners, and firewood suppliers.

Thank you very much for your time. We wish you many cozy fires this winter, surrounded by family and friends~

Warmly,
Sandra Murphy, David Brynn, Susannah McCandless, and Middlebury College students

Survey Screening Questions

I. Do you own forestland?

- A. Yes (Please answer Survey #1, page 31, page 2 of survey)
- B. No

II. Do you sell firewood?

- A. Yes (Please answer Survey #2, page 33, page 4 of survey)
- B. No

III. Do you burn firewood at your home?

- A. Yes (Please answer Survey #3, page 35, page 6 of survey)
- B. No

Survey # 1 – Questions for Landowners

- 1. How much forest land do you own? _____ acres**

- 2. Why do you own your land? (Select all that apply)**
 - A. To enjoy beauty or scenery.
 - B. To enjoy wildlife.
 - C. To protect nature and biological diversity.
 - D. For land investment.
 - E. Part of my home or vacation home.
 - F. For privacy.
 - G. For production of firewood.
 - H. For production of other timber products.
 - I. For recreation.
 - J. Other: _____

- 3. Has firewood been harvested in your forest within the past 5 years?**
 - A. Yes.
 - B. No.

- 4. Do you actively manage your forest land?**
 - A. Yes, I hire a forester.
 - B. Yes, I manage it myself.
 - C. No. Please explain _____

- 5. Have you been satisfied with the forest management practices on your land?**
 - A. Yes.
 - B. No. Why not? _____

- 6. What has prevented you from being able to manage your forest land according to your primary goals?**
 - A. Time.
 - B. Money.
 - C. Knowledge.
 - D. Other: _____

- 7. Would you be interested in attending a workshop on efficient and ecologically sustainable firewood harvesting?**
 - A. Yes.
 - B. No.

- 8. Are you aware of programs to aid landowners in paying costs associated with forest conservation and stewardship?**
 - A. Yes.
 - B. No, but I would like more information on the topic.
 - C. No.

9. Community-supported agriculture (CSA) systems are designed to bring farmers and customers together to increase efficiency and sustainability of food production. Each year customers purchase a share of a farmer's crop and receive deliveries of food throughout the growing season. Are you familiar with the CSA model?

- A. Yes.
- B. Somewhat.
- C. No.

10. Vermont Family Forests plans to pilot a Community-Supported Forestry™ (CSF) Firewood program in the near future. In this model, firewood customers would purchase a set amount of wood early in the season. This wood will be harvested from healthy, local forests and will provide a direct connection between owners of healthy, local forests and firewood customers. As a landowner would you be interested in participating in this program?

- A. Yes. (answering "yes" does not commit you in any way, it simply helps us gauge your interest)
- B. Maybe. I need more information.
- C. No.
- D. Other _____

11. What advantages do you see for yourself as a landowner in the Community-Supported Forestry™ Firewood model? (On a scale of 1-5. Please select one number for each item)

	Very important..... Not important				
I would be supporting ecologically sustainable forest management in my community.	1	2	3	4	5
I would be contributing to a local forest products economy.	1	2	3	4	5
I would know that my firewood came from healthy, local forests.	1	2	3	4	5
The program will help build community relationships.	1	2	3	4	5
I would have a reliable source of customers.	1	2	3	4	5

12. Can you see any other potential advantage of the Community-Supported Forestry Firewood model for you personally? Please explain.

13. As a landowner, what might hold you back from participating in the Community-Supported Forestry™ Firewood model? (Select all that apply)

Very important..... Not important

Higher production costs than returns	1	2	3	4	5
Unsure that I have enough firewood grade trees	1	2	3	4	5
Too much hassle.	1	2	3	4	5
Untested model – too much uncertainty.	1	2	3	4	5
Logistical problems.	1	2	3	4	5

14. Can you see any other potential factors that might constrain you from selling trees for firewood in the Community-Supported Forestry™ Firewood Program?

Survey # 2 – Questions for Loggers / Producers

- 1. How much firewood do you harvest annually? _____ cords**
- 2. How many firewood customers do you serve? _____**
- 3. Would you say the demand for your firewood is:**
 - A. Increasing.
 - B. Decreasing.
 - C. Constant.
 - D. Other: _____
- 4. How variable are firewood sales year by year?**
 - A. Not variable.
 - B. Moderately to highly variable.
 - C. Other: _____
- 5. Is the supply of firewood timber reliable in your region?**
 - A. Yes.
 - B. Not sure.
 - C. No. Please explain. _____
- 6. On average, how far does your firewood travel from its forest of origin before reaching the customer?**
 - A. Less than 5 miles.
 - B. 5 – 20 miles.
 - C. 20 – 50 miles.
 - D. More than 50 miles.
 - E. Other _____
- 7. Have your customers expressed interest in obtaining firewood from healthy, local forests?**
 - A. Yes, the majority have.
 - B. Yes, but only a few.
 - C. No.
 - D. Other: _____
- 8. Community-supported agriculture (CSA) systems are designed to bring farmers and customers together to increase efficiency and sustainability of food production. Each year customers purchase a share of a farmer's crop and receive deliveries of food throughout the growing season. Are you familiar with the CSA model?**
 - A. Very familiar.
 - B. A little.
 - C. Not at all.

9. Vermont Family Forests plans to pilot a Community-Supported Forestry™ (CSF) Firewood program in the near future. In this model, firewood customers would purchase a set amount of wood early in the season. This wood will be harvested from healthy, local forests and will provide a direct connection between owners of healthy, local forests and firewood customers. As a landowner would you be interested in participating in this program?

- A. Yes. (answering “yes” does not commit you in any way, it simply helps us gauge your interest)
- B. Maybe. I need more information.
- C. No.
- D. Other _____

10. What advantages do you see for yourself as a firewood supplier in the Community-Supported Forestry™ Firewood Program? (On a scale of 1-5. Please select one number for each item.)

	Very important.....Not Important				
Since customers pre-buy wood, I'd have a source of income early in the season.	1	2	3	4	5
The program will enable me to offer a firewood source to those customers who want to purchase wood from local, sustainably managed forests	1	2	3	4	5
The program will allow me to diversify my sales and serve more customers.	1	2	3	4	5
The program may encourage more landowners to sell their trees for firewood.	1	2	3	4	5

11. Can you see any other potential advantage of the Community-Supported Forestry™ Firewood model for you personally? Please explain.

12. What factors might inhibit you from participating in the Community-Supported Forestry™ Firewood Program?

	Very important..... Not important				
Greater production costs than returns	1	2	3	4	5
I am concerned that I may not have enough firewood grade timber to harvest.	1	2	3	4	5
Too much hassle.	1	2	3	4	5
Untested model – too much uncertainty.	1	2	3	4	5
Logistical problems.	1	2	3	4	5

13. Can you see any other potential factors that might constrain you from selling trees for firewood in the Community-Supported Forestry™ Firewood Program?

Survey # 3A – Questions for Firewood Customers (general)

1. What do you use your firewood for?

- A. Primary heating source.
- B. Back up heat source.
- C. Supplemental heat source.
- D. Recreational (ambience, bonfire, etc.).
- E. Other (please specify) _____

2. How long have you been burning firewood?

- A. Less than a year.
- B. 1 – 3 years.
- C. 3 – 5 years.
- D. More than 5 years.

3. Approximately how much firewood do you use in an average year? _____ cords

4. Are you currently happy with your source of firewood?

- A. Yes.
- B. Sometimes.
- C. No. Please explain. _____

5. Why do you burn firewood rather than alternative heating sources? (Select all that apply)

- A. Cheaper.
- B. Local source of fuel.
- C. More environmentally friendly.
- D. Ambience.
- E. Other:

6. From where do you get your firewood?

- A. Cut my own. (Go to question 20)
- B. Purchase it.
- C. Other: _____

7. How many times a year do you buy firewood?

- A. Never.
- B. Once.
- C. Twice.
- D. Three times.
- E. More than three times.

8. Do you always buy firewood from the same place?

- A. Yes
- B. No. Explain: _____

9. What do you pay per cord? _____ dollars

10. When do you pay for your firewood?

- A. When ordering it.
- B. When it is delivered.
- C. Other. Please specify: _____

11. About how long does it typically take between procurement of your firewood and when it is delivered?

- A. Less than 1 week.
- B. 1-2 weeks.
- C. 3-4 weeks.
- D. More than a month.
- E. Other: _____

12. How satisfied are you with the delivery of your firewood?

- A. Extremely satisfied.
- B. Satisfied.
- C. Moderately satisfied.
- D. Not satisfied.
- E. Other: _____

13. At what time of year would you prefer to receive your firewood? (Select all that apply)

- A. Summer.
- B. Fall.
- C. Winter.
- D. Spring.
- E. No preference.

14. Do you buy green, seasoned or dry firewood?

- A. Green.
- B. Seasoned.
- C. Dry.
- D. Not sure.
- E. Other: _____

15. Are you satisfied with the quality of your firewood?

- A. Yes.
- B. No.
- C. Sometimes.
- D. Please explain:

16. Do you know where your firewood was harvested?

- A. Yes, always.
- B. Sometimes.
- C. No, never.

- 17. Would you like to know where your firewood comes from and the ecological condition of the forest from which it was harvested?**
- A. Yes.
 - B. No.
 - C. Other:
- 18. Would you be interested in buying firewood from carefully tended local sources?**
- A. Yes.
 - B. No.
- 19. Would you be willing to pay in advance for firewood from sustainable local source?**
- A. Yes.
 - B. No.
- 20. Community-supported agriculture systems are designed to bring farmers and customers together to increase efficiency and sustainability of food production. Each year customers purchase a share of a farmer's crop and receive deliveries of food throughout the growing season. Have you participated in or are you familiar with Community Supported Agriculture (CSA) Systems?**
- A. Yes.
 - B. No.
 - C. Other:
- 21. Vermont Family Forests plans to launch a Community-Supported ForestryTM Firewood Program in the near future. In this program, firewood customers will purchase a set amount of wood early in the season. This firewood will be harvested from local, healthy forests and create a direct connection between landowners, loggers and customers. As a firewood customer, would you be interested in learning more about purchasing wood through this new program?**
- A. Yes.
 - B. No.
 - C. Other _____

22. What opportunities do you see for yourself as a firewood customer in the Community-Supported Forestry™ Firewood Program? (On a scale of 1-5. Please select one number for each item.)

	Very important..... Not important				
	1	2	3	4	5
I would be supporting ecologically sustainable forest management in my community.					
I would be contributing to a local forest products economy.					
I would know that my firewood came from healthy, local forests.					
I would be supporting a program that strengthens community relationships.					
I would have a reliable source of customers.					

23. As a firewood customer, what factors might inhibit you from purchasing firewood through the Community-Supported Forestry™ Firewood Program? (On a scale of 1-5. Please select one number for each item.)

	Very important..... Not important				
	1	2	3	4	5
Higher prices					
Variable/unreliable supply					
Too much hassle.					
Paying in advance for firewood					
Untested model – logistical concerns					

24. Can you see any other potential factors that might constrain you from selling trees for firewood in the Community-Supported Forestry™ Firewood Program?

25. Do you have any suggestions for Vermont Family Forests as we develop of the Community Supported Forestry™ Program?

Survey # 3B – Questions for Firewood Customers (wood storage)

- 1. Where do you store your firewood?**
- 2. Is your wood:**
 - A. Mostly under cover.
 - B. Mostly not covered.
 - C. Other:
- 3. How long is your firewood in storage before use?**
 - A. A few days.
 - B. A few weeks.
 - C. A few months.
 - D. Over a year.
- 4. How many times do you relocate your firewood before burning it? (from delivery location to the stove or, if you cut your own wood, from the tree to the stove)**
 - A. 1
 - B. 2
 - C. 3
 - D. 4+
 - E. Explain if necessary. _____
- 5. Rate the following drawbacks/challenges with your current firewood heating system. (1=no problem, 5=major problem, 0=does not apply)**

	Very important.....	Not important			
Cost.	1	2	3	4	5
Poorly dried wood.	1	2	3	4	5
Storage.	1	2	3	4	5
Too much handling of wood.	1	2	3	4	5
Unreliable supply.	1	2	3	4	5
Inefficient stove.	1	2	3	4	5
- 6. How satisfied are you with your current system of firewood storage?**
 - A. Extremely satisfied.
 - B. Somewhat satisfied.
 - C. Unsatisfied.
 - D. Please explain.
- 7. Would you be interested in receiving information or attending a workshop on storage options that optimize drying, access, or efficiency of firewood handling?**
 - A. Yes.
 - B. No.

Thank you for completing this survey. May the forest be with you!

Additional Comments?

Appendix B: Coop Customer Survey

Here at Vermont Family Forests, we're developing what we think is an exciting and **innovative firewood program**. As more and more homes and businesses rely on our forests for heat, new strategies for managing forest health, maximizing efficiency in utilizing firewood, and providing socially responsible access to firewood must be developed. A **Community-Supported Forestry™ Firewood Program**, which parallels the Community-Supported Agriculture (CSA) model that has been used very successfully by farmers across the country, would help address these goals. We have a general framework for what the program might look like, but **we need your input to help us identify opportunities and constraints**. Thank you very much for your time.

Warmly,
Sandra Murphy, David Brynn, Susannah McCandless, and Middlebury College Students
of the Environmental Studies Program

1. What do you use your firewood for?

- a) Primary heating source.
- b) Back up heat source.
- c) Supplemental heat source.
- d) Recreational (ambiance, bonfires, etc.)
- e) Other (please specify)

2. How long have you been burning firewood?

- a) Less than a year.
- b) 1-3 years.
- c) 3-5 years.
- d) More than 5 years.

3. How much firewood do you use in an average year (cords)? _____

4. Are you currently happy with the source of your firewood?

- a) Yes.
- b) Sometimes.
- c) No, please explain:

5. Why do you burn firewood rather than using alternative heating sources?

(Circle all that apply)

- a) Cheaper.
- b) Local source of fuel.
- c) More environmentally friendly.
- d) Ambience.
- e) Other, please specify:

6. How many times a year do you buy firewood?

- a) 0.
- b) 1.
- c) 2.
- d) 3.
- e) 4+.

7. Do you always buy firewood from the same place?

- a) Yes.
- b) No, please explain.

8. When do you pay for your firewood?

- a) When I order it.
- b) When it is delivered.
- c) Other, please specify:

9. About how long does it typically take between ordering your firewood and when it is delivered?

- a) Less than 1 week.
- b) 1-2 weeks.
- c) 3-4 weeks.
- d) More than a month.

10. How satisfied are you with the delivery of your firewood?

- a) Extremely satisfied.
- b) Satisfied.
- c) Moderately satisfied.
- d) Not satisfied.
- e) Other, please specify:

11. Are you satisfied with the quality of your firewood?

- a) Yes.
- b) No.
- c) Sometimes.

12. Do you buy green, seasoned, or dry firewood?

- a) Green.
- b) Seasoned.
- c) Dry.
- d) Not sure.
- e) Other:

13. Do you know where your firewood was harvested?

- a) Yes, always.
- b) Sometimes.
- c) No, never.

14. Would you like to know where your firewood comes from and the ecological conditions of the forest from which it was harvested?

- a) Yes.
- b) No.
- c) Other:

15. Would you be interested in buying firewood from carefully tended local sources?

- a) Yes.
- b) No.
- c) Other:

16. Would you be willing to pay in advance for firewood from sustainable local sources?

- a) Yes.
- b) No.
- c) Other:

17. Community- Supported Agriculture (CSA) systems are designed to bring farmers and customers together to increase efficiency and sustainability of food production. Each year, customers purchase a share of a farmer's crop and receive deliveries of food throughout the growing season. Have you participated in, or are you familiar with CSA systems?

- a) Yes.
- b) No.
- c) Other:

18. Vermont Family Forests plans to launch a Community- Supported Forestry TM Firewood Program in the near future. In this program, firewood customers will purchase a set amount of wood early in the season. This firewood will be harvested from local, healthy forests and will create a direct connection between landowners, suppliers, and customers. Would you be interested in learning more about purchasing wood through this new program?

- a) Yes.
- b) No.
- c) Other:

19. What advantages do you see for yourself in the Community- Supported Forestry™ Firewood Program? (On a scale of 1-5 with 1 being very important and 5 being not important, please select one number for each item)

- I would be supporting ecologically sustainable forest management in my community:
1 2 3 4 5
- I would be contributing to a local forest products economy:
1 2 3 4 5
- I would know that my firewood came from healthy, local forests:
1 2 3 4 5
- The program will help build community relationships:
1 2 3 4 5
- I would have a reliable source of firewood:
1 2 3 4 5

20. What factors might inhibit you from purchasing firewood through the Community- Supported Forestry™ Firewood Program? (On a scale of 1-5 with 1 being very important and 5 being not important, please select one number for each item)

- High prices:
1 2 3 4 5
- Variable/ unreliable wood supply:
1 2 3 4 5
- Too much hassle:
1 2 3 4 5
- Paying in advance for firewood:
1 2 3 4 5
- Untested model- too much uncertainty:
1 2 3 4 5
- Logistical problems:
1 2 3 4 5

21. Do you have any suggestions for Vermont Family Forests, as we develop the Community- Supported Forestry™ Firewood Program

Appendix C – Online Survey Results

2. Forestland Owner Screening

1. Do you own forestland?



3. Forestland Owners

1. How much forestland do you own?



2. Why do you own your land? (Select all that apply)

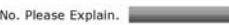


View	Other (please specify) 	21.1%	27
		Total Respondents	128
		(skipped this question)	89

3. Has firewood been harvested in your forest within the past 5 years?

		Response Percent	Response Total
Yes.		79.5%	101
No.		20.5%	26
		Total Respondents	127
		(skipped this question)	90

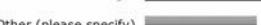
4. Do you actively manage your forestland?

		Response Percent	Response Total
Yes, I hire a forester.		27.6%	35
Yes, I manage it myself.		50.4%	64
View	No. Please Explain. 	22%	28
		Total Respondents	127
		(skipped this question)	90

5. Have you been satisfied with the forest management practices on your land?

		Response Percent	Response Total
Yes.		65.3%	81
View	No. Why not? 	34.7%	43
		Total Respondents	124
		(skipped this question)	93

6. What has prevented you from being able to manage your forestland according to your primary goals?
(Select all that apply)

		Response Percent	Response Total
Time.		76.9%	80
Money.		39.4%	41
Knowledge.		38.5%	40
View	Other (please specify) 	23.1%	24
		Total Respondents	104
		(skipped this question)	113

7. Would you be interested in attending a workshop on efficient and ecologically sustainable firewood harvesting?

		Response Percent	Response Total
Yes.		79.8%	95

No.		20.2%	24
Total Respondents	119		
(skipped this question)	98		

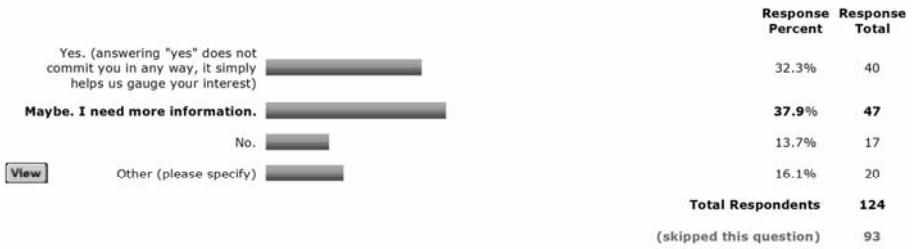
8. Are you aware of programs to aid landowners in paying costs associated with forest conservation and stewardship?



9. Community-supported agriculture (CSA) systems are designed to bring farmers and customers together to increase efficiency and sustainability of food production. Each year customers purchase a share of a farmer's crop and receive deliveries of food throughout the growing season. Are you familiar with the CSA model?



10. Vermont Family Forests plans to pilot a Community-Supported Forestry™ Firewood program in the near future. In this model, firewood customers would purchase a set amount of wood early in the season. This wood will be harvested from healthy, local forests and will provide a direct connection between owners of healthy, local forests and firewood customers. As a landowner, would you be interested in participating in this program?



11. What advantages do you see for yourself as a landowner in the Community-Supported Forestry™ Firewood model?

	1 Very Important	2	3	4	5 Not Important	N/A	Response Average
I would be supporting ecologically sustainable forest management in my community.	62% (71)	21% (24)	5% (6)	3% (3)	0% (0)	10% (11)	1.43
I would be contributing to a local	44% (51)	31% (36)	8% (9)	4% (5)	1% (1)	11% (13)	1.72

forest products economy.	
I would know that my firewood came from healthy, local forests.	50% (57) 18% (20) 11% (13) 1% (1) 4% (4) 17% (19) 1.68
The program will help build community relationships.	48% (55) 24% (27) 13% (15) 7% (8) 0% (0) 8% (9) 1.77
I would have a reliable source of firewood customers.	25% (28) 12% (13) 16% (18) 8% (9) 18% (20) 22% (25) 2.77
	Total Respondents 115
	(skipped this question) 102

12. Can you see any other potential advantages of the Community-Supported Forestry™ Firewood model for you personally? Please explain.

[View]	Total Respondents	41
	(skipped this question)	176

13. As a landowner, what would hold you back from participating in the Community-Supported Forestry™ Firewood model? (On a scale of 1 - 5. Please select one number for each item.)

	1 Very Important	2	3	4	5 Not Important	Response Average
Higher production costs than returns.	32% (34)	29% (30)	21% (22)	9% (9)	10% (10)	2.34
Unsure that I have enough firewood grade trees.	28% (31)	20% (22)	17% (18)	12% (13)	23% (25)	2.81
Too much hassle.	17% (18)	23% (24)	27% (28)	15% (16)	18% (19)	2.94
Untested model - too much uncertainty.	6% (6)	14% (14)	22% (23)	28% (29)	30% (31)	3.63
Logistical problems.	22% (23)	21% (22)	35% (36)	14% (15)	8% (8)	2.64
					Total Respondents 112	
					(skipped this question)	105

14. Can you see any other potential factors that might constrain you from selling trees for firewood in the Community-Supported Forestry™ Firewood Program?"

[View]	Total Respondents	61
	(skipped this question)	156

4. Firewood Producer Screening

1. Do you sell firewood?

	Response Percent	Response Total
Yes.	7.1%	14
No.	92.9%	182
Total Respondents		196
(skipped this question)		21

5. Firewood Producer

1. About how much firewood do you harvest annually?

Response Total	Response Average

cords		436	39.64
		Total Respondents	11
		(skipped this question)	206

2. How many firewood customers do you serve?

<input checked="" type="button"/> View	Total Respondents	11
	(skipped this question)	206

3. Would you say the demand for your firewood is:

		Response Percent	Response Total
Increasing.		54.5%	6
Decreasing.		0%	0
Constant.		27.3%	3
<input checked="" type="button"/> View	Other (please specify)	18.2%	2
		Total Respondents	11
		(skipped this question)	206

4. How variable are firewood sales year by year?

		Response Percent	Response Total
Not variable		27.3%	3
Moderately to highly variable		54.5%	6
<input checked="" type="button"/> View	Other (please specify)	18.2%	2
		Total Respondents	11
		(skipped this question)	206

5. Is the supply of firewood timber reliable in your region?

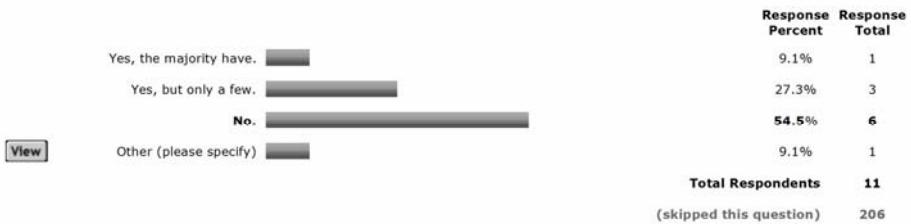
		Response Percent	Response Total
Yes.		54.5%	6
Not sure.		36.4%	4
<input checked="" type="button"/> View	No (please explain)	9.1%	1
		Total Respondents	11
		(skipped this question)	206

6. On average, how far does your firewood travel from its forest of origin before reaching the customer?

		Response Percent	Response Total
Less than 5 miles.		18.2%	2
5 - 10 miles.		45.5%	5
20 - 50 miles.		36.4%	4
More than 50 miles.		0%	0

Other	0%	0
Total Respondents	11	
(skipped this question)	206	

7. Have your customers expressed interest in obtaining firewood from healthy, local forests?



8. Community-supported agriculture (CSA) systems are designed to bring farmers and customers together to increase efficiency and sustainability of food production. Each year customers purchase a share of a farmer's crop and receive deliveries of food throughout the growing season. Are you familiar with the CSA model?



9. Vermont Family Forests plans to pilot a Community-Supported Forestry™ Firewood Program in the near future. In this model, firewood customers will purchase a set amount of wood early in the season. This wood will be harvested from healthy, local forests and will provide a direct connection between owners of these healthy forests and firewood customers. As a firewood supplier, would you be interested in participating in this program?



10. What advantages do you see for yourself as a firewood supplier in the Community-Supported Forestry™ Firewood Program? (On a scale of 1-5. Please select one number for each item).

1 Very Important	2	3	4	5 Not Important	N/A	Response Average
Since customers pre-buy wood, I'd have a source of income early in the season. 38% (3)	0% (0)	38% (3)	12% (1)	12% (1)	0% (0)	2.63

The program will enable me to offer a firewood source to those customers who want to purchase wood from local, sustainably managed forests.	38% (3)	50% (4)	0% (0)	12% (1)	0% (0)	0% (0)	1.88
The program will allow me to diversify my sales and serve more customers.	11% (1)	33% (3)	22% (2)	11% (1)	22% (2)	0% (0)	3.00
The program may encourage more landowners to sell their trees for firewood.	11% (1)	11% (1)	33% (3)	22% (2)	22% (2)	0% (0)	3.33
Total Respondents						10	
(skipped this question)						207	

11. Can you see any other potential advantages of the Community-Supported Forestry™ Firewood model for you personally? Please explain.

[View]	Total Respondents	5
	(skipped this question)	212

12. As a firewood supplier, what would hold you back from participating in the Community-Supported Forestry™ Firewood program? (On a scale of 1 - 5. Please select one number for each item.)

	1 Very Important	2	3	4	5 Not Important	Response Average
Greater production costs than returns.	50% (5)	20% (2)	20% (2)	0% (0)	10% (1)	2.00
I am concerned that I may not have enough firewood-grade timber to harvest.	0% (0)	10% (1)	30% (3)	10% (1)	50% (5)	4.00
Too much hassle.	10% (1)	40% (4)	30% (3)	10% (1)	10% (1)	2.70
Untested model - too much uncertainty.	10% (1)	20% (2)	20% (2)	20% (2)	30% (3)	3.40
Logistical problems.	20% (2)	10% (1)	50% (5)	10% (1)	10% (1)	2.80
Total Respondents						10
(skipped this question)						207

13. Can you see any other potential factors that might constrain you from selling trees for firewood in the Community-Supported Forestry™ Firewood Program?"

[View]	Total Respondents	3
	(skipped this question)	214

6. Customer Screening

1. Do you burn firewood at your home?



7. Firewood Customers

1. What do you use your firewood for?



2. How long have you been burning firewood?



3. Approximately how much firewood do you use in an average year?



4. Are you currently happy with your source of firewood?



5. Why do you burn firewood rather than alternative heating sources? (Select all that apply)



Total Respondents 153
 (skipped this question) 64

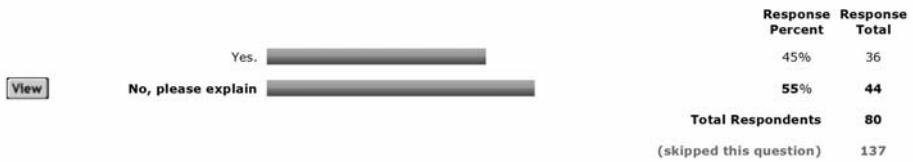
6. From where do you get your firewood?



7. How many times a year do you buy firewood?



8. Do you always buy firewood from the same place?



9. What do you pay per cord?

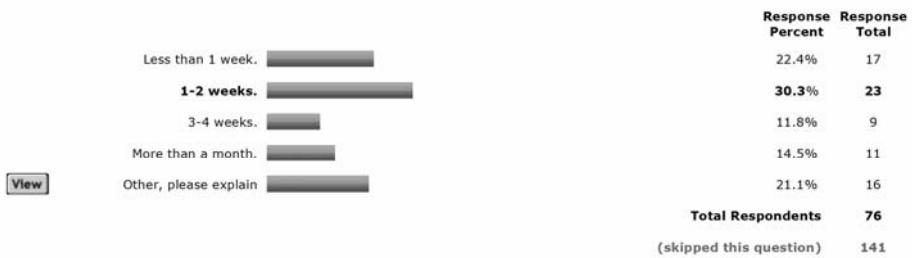


10. When do you pay for your firewood?

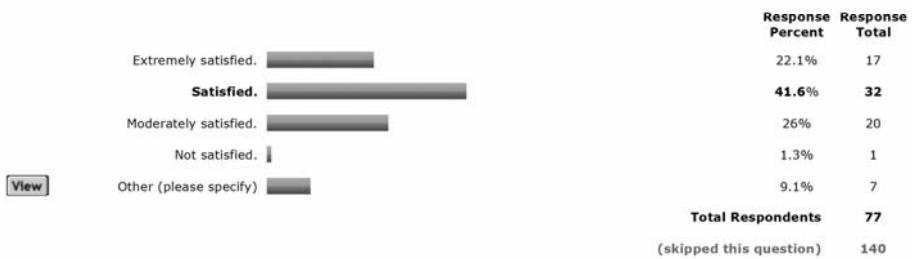


Total Respondents	78
(skipped this question)	139

11. About how long does it typically take between ordering your firewood and when it is delivered?



12. How satisfied are you with the delivery of your firewood?



13. At what time of year would you prefer to receive your firewood? (Select all that apply)



14. Do you buy green, seasoned, or dry firewood?



[View](#)Other: 

10.4% 8

Total Respondents 77

(skipped this question) 140

15. Are you satisfied with the quality of your firewood?

[View](#)Please explain 

Response Percent	Response Total
---------------------	-------------------

61.7% 50

1.2% 1

34.6% 28

22.2% 18

Total Respondents 81

(skipped this question) 136

16. Do you know where your firewood was harvested?

Response Percent	Response Total
---------------------	-------------------

27.4% 23

45.2% 38

27.4% 23

Total Respondents 84

(skipped this question) 133

17. Would you like to know where your firewood comes from and the ecological conditions of the forest from which it was harvested?

[View](#)Other: 

Response Percent	Response Total
---------------------	-------------------

91.2% 73

3.8% 3

5% 4

Total Respondents 80

(skipped this question) 137

18. Would you be interested in buying firewood from carefully tended local sources?

Response Percent	Response Total
---------------------	-------------------

95.1% 78

4.9% 4

Total Respondents 82

(skipped this question) 135

19. Would you be willing to pay in advance for firewood from sustainable local sources?

Response Percent	Response Total
---------------------	-------------------

Yes.		91.5%	75
No.		8.5%	7
Total Respondents			82
(skipped this question)			135

20. Community-Supported Agriculture (CSA) systems are designed to bring farmers and customers together to increase efficiency and sustainability of food production. Each year customers purchase a share of a farmer's crop and receive deliveries of food throughout the growing season. Have you participated in, or are you familiar with CSA Systems?



21. Vermont Family Forests plans to launch a Community-Supported Forestry™ Firewood Program in the near future. In this program, firewood customers will purchase a set amount of wood early in the season. This firewood will be harvest from local, healthy forests and will create a direct connection between landowners, suppliers, and customers. As a firewood customer, would you be interested in learning more about purchasing wood through this new program?



22. What advantages do you see for yourself as a firewood customer in the Community-Supported Forestry™ Firewood Program? (On a scale of 1 - 5. Please select one number for each item.)

	1 Very Important	2	3	4	5 Not Important	Response Average
I would be supporting ecologically sustainable forest management in my community.	76% (93)	18% (22)	4% (5)	0% (0)	2% (2)	1.33
I would be contributing to a local forest products economy.	61% (74)	29% (35)	8% (10)	1% (1)	2% (2)	1.54
I would know that my firewood came from healthy, local forests.	69% (83)	21% (26)	7% (8)	1% (1)	2% (3)	1.47
I would be supporting a program that strengthens community relationships	55% (67)	30% (37)	11% (13)	2% (2)	2% (3)	1.66
I would have a reliable source of firewood.	54% (65)	25% (30)	12% (15)	4% (5)	5% (6)	1.82
Total Respondents			122			
(skipped this question)			95			

23. As a firewood customer, what factors might inhibit you from purchasing firewood through the Community-Supported Forestry™ Firewood Program? (On a scale of 1 - 5. Please select one number for each item.)

	1 Very Important	2	3	4	5 Not Important	Response Average
High prices.	33% (40)	33% (40)	24% (29)	6% (7)	3% (4)	2.13
Variable/unreliable wood supply.	36% (42)	36% (42)	16% (19)	5% (6)	8% (9)	2.14
Too much hassle.	13% (16)	34% (40)	18% (21)	14% (17)	21% (25)	2.96
Paying in advance for firewood.	6% (7)	10% (12)	18% (21)	27% (32)	40% (48)	3.85
Untested model - too much uncertainty.	1% (1)	13% (16)	27% (32)	28% (33)	31% (37)	3.75
Logistical problems.	9% (11)	19% (23)	34% (40)	21% (25)	17% (20)	3.17
					Total Respondents	121
					(skipped this question)	96

24. Can you see any other potential factors that might constrain you from selling trees for firewood in the Community-Supported Forestry™ Firewood Program?"

[View]	Total Respondents	53
	(skipped this question)	164

25. Do you have any suggestions for Vermont Family Forests as we develop the Community-Supported Forestry™ Program?

[View]	Total Respondents	57
	(skipped this question)	160

8. Firewood Storage

1. Where do you store your firewood?

[View]	Total Respondents	145
	(skipped this question)	72

2. Is your wood:

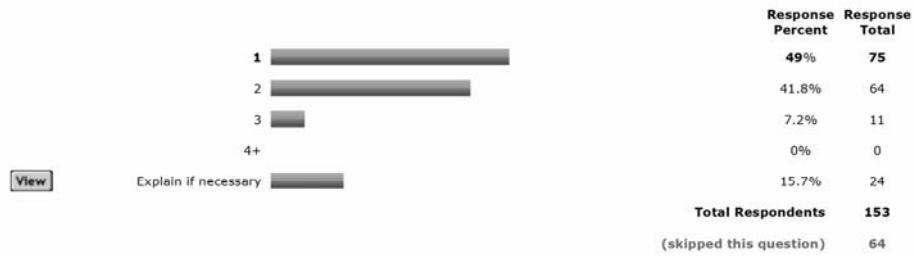
		Response Percent	Response Total
Mostly under cover.		83%	127
Mostly not covered.		11.1%	17
[View] Other (please specify)		5.9%	9
		Total Respondents	153
		(skipped this question)	64

3. How long is your firewood in storage before use?

		Response Percent	Response Total
A few days.		0%	0
A few weeks.		6.7%	10
A few months.		42%	63
Over a year.		51.3%	77
		Total Respondents	150

(skipped this question) 67

4. How many times do you relocate your split firewood before burning it?



5. Rate the following drawbacks/challenges with your current firewood heating system.

	1 (no problem)	2	3	4	5 (major problem)	N/A	Response Average
Cost.	65% (93)	13% (19)	10% (15)	1% (2)	3% (4)	7% (10)	1.53
Poorly dried wood.	44% (64)	24% (34)	12% (18)	12% (17)	3% (4)	5% (7)	2.00
Storage.	46% (66)	22% (32)	15% (21)	10% (14)	3% (4)	5% (7)	1.96
Too much handling of wood.	34% (49)	26% (37)	21% (31)	12% (17)	3% (5)	4% (6)	2.22
Unreliable supply.	58% (83)	14% (20)	10% (14)	6% (8)	6% (9)	6% (9)	1.81
Inefficient stove.	64% (91)	14% (20)	8% (11)	6% (9)	4% (6)	4% (6)	1.68
					Total Respondents	147	
					(skipped this question)		70

6. How satisfied are you with your current system of firewood storage?



7. Would you be interested in receiving information or attending a workshop on storage options that optimize drying, access, or efficiency of firewood handling?



9. Thank You

1. Additional Comments:

View	Total Respondents	49
(skipped this question)		168

2. THANK YOU FOR COMPLETING THE SURVEY! If you would like to be entered into our drawing, please provide your email and contact information. The first 10 respondents will receive a Vermont Family Forest mug. All respondents will be entered into a drawing for the grand prize-- a 2 hour forest consultation with expert David Brynn. Your contact information will not be associated with your survey responses. MAY THE FOREST BE WITH YOU!!

View	Total Respondents	97
(skipped this question)		120

Appendix D – Co-op Survey Results

Results from the Middlebury Co-op Survey

1. What do you use your firewood for?

- a) Primary heating source. (10)
- b) Back up heat source. (3)
- c) Supplemental heat source. (10)
- d) Recreational (ambiance, bonfires, etc.) (3)
- e) Other (please specify) (none)

A+C: 1

B+C+D=1

A+D=1

2. How long have you been burning firewood?

- a) Less than a year. (1)
- b) 1-3 years. (3)
- c) 3-5 years. (4)
- d) More than 5 years. (13)

3. How much firewood do you use in an average year (cords)?

>1 cord : 2

1 cord: 2

1-2 cords: 1

2 cords: 3

3 cords: 2

3-4 cords: 2

4-5 cords: 1

5 cords: 2

5-6 cords: 2

>6 cords: 1

4. Are you currently happy with the source of your firewood?

- a) Yes. (17)
- b) Sometimes. (3) Spotty delivery mentioned
- c) No, please explain: (1- fungus)

5. Why do you burn firewood rather than using alternative heating sources?

(Circle all that apply)

- a) Cheaper. (13)
- b) Local source of fuel. (16)
- c) More environmentally friendly. (10)
- d) Ambience. (8)
- e) Other, please specify:
 - Fast heating
 - New wood stove

6. How many times a year do you buy firewood?

- a) 0. (5 people harvested their own wood)
- b) 1. (13)
- c) 2. (1)
- d) 3. (1)
- e) 4+. (1)

7. Do you always buy firewood from the same place?

- a) Yes. (8)
- b) No, please explain. (11)
 - Cut themselves
 - Spotty Delivery
 - Variety of sources depending on availability

8. When do you pay for your firewood?

- a) When I order it. (2)
- b) When it is delivered. (13)
- c) Other, please specify: CUT THEMSELVES

9. About how long does it typically take between ordering your firewood and when it is delivered?

- a) Less than 1 week. (6)
- b) 1-2 weeks. (5)
- c) 3-4 weeks. (3)
- d) More than a month. (2)

10. How satisfied are you with the delivery of your firewood?

- a) Extremely satisfied. (3)
- b) Satisfied. (10)
- c) Moderately satisfied. (3)
- d) Not satisfied. (0)
- e) Other, please specify: (0)

11. Are you satisfied with the quality of your firewood?

- a) Yes. (15)
 - b) No. (1)
 - c) Sometimes. (4)
- No Response: 2

12. Do you buy green, seasoned, or dry firewood?

- a) Green. (10)
- b) Seasoned. (9)
- c) Dry. (3)
- d) Not sure. (0)
- e) Other:

13. Do you know where your firewood was harvested?

- a) Yes, always. (9)
- b) Sometimes. (7)
- c) No, never. (4)

No Response: 2

14. Would you like to know where your firewood comes from and the ecological conditions of the forest from which it was harvested?

- a) Yes. (17)
- b) No. (2)
- c) Other:

No Response: 3

15. Would you be interested in buying firewood from carefully tended local sources?

- a) Yes. (20)
- b) No.
- c) Other:

No Response: 2

16. Would you be willing to pay in advance for firewood from sustainable local sources?

- a) Yes. (18)
- b) No. (1)
- c) Other:

No Response: 3

17. Community- Supported Agriculture (CSA) systems are designed to bring farmers and customers together to increase efficiency and sustainability of food production. Each year, customers purchase a share of a farmer's crop and receive deliveries of food throughout the growing season. Have you participated in, or are you familiar with CSA systems?

- a) Yes. (11)
- b) No. (11)
- c) Other:

18. Vermont Family Forests plans to launch a Community- Supported ForestryTM Firewood Program in the near future. In this program, firewood customers will purchase a set amount of wood early in the season. This firewood will be harvested from local, healthy forests and will create a direct connection between landowners, suppliers, and customers. Would you be interested in learning more about purchasing wood through this new program?

- a) Yes. (17)
- b) No.
- c) Other: (4)
 - o No longer burning wood

- Use own wood
- Might be interested if they used more
- Maybe

19. What advantages do you see for yourself in the Community- Supported Forestry™ Firewood Program? (On a scale of 1-5 with 1 being very important and 5 being not important, please select one number for each item)

- I would be supporting ecologically sustainable forest management in my community:
1 (17) 2 (1) 3 4 (1) 5 (2)
- I would be contributing to a local forest products economy:
1(16) 2 (2) 3(1) 4(1) 5(1)
- I would know that my firewood came from healthy, local forests:
1 (15) 2(3) 3 4(1) 5(2)
- The program will help build community relationships:
1(14) 2 (2) 3(3) 4(1) 5(2)
- I would have a reliable source of firewood:
1(13) 2(2) 3(2) 4(2) 5(2)

No Response: 1

20. What factors might inhibit you from purchasing firewood through the Community- Supported Forestry™ Firewood Program? (On a scale of 1-5 with 1 being very important and 5 being not important, please select one number for each item)

- High prices:
1(5) 2(5) 3(5) 4(4) 5(1)
- Variable/ unreliable wood supply:
1(7) 2(4) 3(6) 4(1) 5(2)
- Too much hassle:
1(4) 2(4) 3(4) 4(2) 5(6)
- Paying in advance for firewood:
1(3) 2 3(3) 4(3) 5(11)
- Untested model- too much uncertainty:
1(1) 2(2) 3(5) 4(4) 5(8)
- Logistical problems:
1(1) 2(2) 3(6) 4(3) 5 (7)

No Response: 2

21. Do you have any suggestions for Vermont Family Forests, as we develop the Community- Supported Forestry™ Firewood Program?

- Keep up the Vision and Good energy!
- Keep it up!
- Good Luck

Appendix E – Thank you Letter to Survey Respondents

December 2006

Dear Members of Vermont Family Forests,

We wanted to thank all of you who took the time to respond to our online survey regarding the future implementation of the Community Supported Forestry™ Firewood Program. We received an overwhelmingly enthusiastic 216 responses to the survey; the results of which are very helpful in shaping this novel program. Your responses clearly indicate that there is a growing demand in firewood and that the time is now to implement a firewood program, which could provide customers with sustainably harvest wood, while deepening community relationships and maintaining healthy forest across Vermont.

This spring we will be running a small pilot program to further develop our visions of a CSF program. We also hope to organize a series of workshops aiming at educating landowners, harvesters, and customers on a wide range of topics from efficient firewood storage to sustainable forestry practices. It is our hope that these workshops will also provide a platform to continue the discussing ideas and thoughts related to Community Supported Forestry™ Firewood Program.

If you are interested in finding out more about responses to the online survey or the recommendations by the Middlebury students who implemented this survey please contact Diane Munroe, Coordinator for Community-Based Environmental Studies at Middlebury College (dmunroe@middlebury.edu) or VFF (info@familyforests.org).

Community Supported Forestry™ has great potential for the small communities which we are all a part of here in Vermont. Thank you for being part of this first important step in making this program a reality. We hope that through your continued support and involvement, we will develop a unique system of acquiring healthy firewood to warm our homes.

Happy Holidays,
Vermont Family Forests